MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

ECE3336 – MOBILE APPLICATION DEVELOPMENT
(All sections / Groups)

6 MARCH 2020
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 3 pages with 4 Questions only.

2. Attempt **ALL FOUR** questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please print all your answers in the Answer Booklet provided.

Question 1

a.   List 3 useful keyboard shortcuts for Android Studio and explain why is it so useful based on an example.

[9 marks]

b.   Explain how Intents are being used in starting a Sub-Activity to obtain results. Construct all the Intents used in the explanation. List 2 practical examples of using Sub-Activity.

[10 marks]

c.   There are the source code for sharing via Intent with a Chooser:

```
Intent intent = new Intent(Intent.ACTION_SEND);
intent.setType("text/plain");
intent.putExtra(Intent.EXTRA_TEXT, value: "http://foe.mmu.edu.my");
startActivity(Intent.createChooser(intent, title: "Share a Link"));
```

Draw a possible dialog being shown to handle this Intent with at least 2 Apps with a matching IntentFilter.

[6 marks]

Question 2

a.   List all classes used in generating a standard vertical list with RecyclerView and explain the function of those classes.

[11 marks]

b.   List 2 different source for the content to be displayed in a WebView and the corresponding method to be used in each case.

[6 marks]

c.   Write the Android source code to construct an instance of TextToSpeech to convert a warning message into voice. Explain the reason why the speak() method cannot be called immediately after the instance of TextToSpeech is constructed.

[8 marks]

Continued ....

Question 3

a.   Explain the occurrence of the exceptions NetworkOnMainThreadException and CalledFromWrongThreadException and how to prevent them.

[6 marks]

b.   List 2 types of NFC dispatch systems and explain the difference between these systems and how to enable these systems.

[10 marks]

c.   Explain in details with a diagram how synchronizing data between an Android App and a web servers can be done.

[9 marks]

Question 4

a.   List 4 different hardware-based sensors used in Android device and the corresponding constants in Android platform APIs. What values are being measured by those sensors?

[12 marks]

b.   List 2 different class in the platform APIs for playing sounds and briefly explain which one is more suitable for games?

[4 marks]

c.   List 3 different profilers used in Android Studio to measure the performance of an App. Briefly explain how these profilers help to improve performance of an App.

[9 marks]

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